



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,295	03/28/2006	Olivier Andrieu	05162	3320

23338 7590 07/05/2006

DENNISON, SCHULTZ & MACDONALD
1727 KING STREET
SUITE 105
ALEXANDRIA, VA 22314

EXAMINER

SCHINDLER, DAVID M

ART UNIT	PAPER NUMBER
----------	--------------

2862

DATE MAILED: 07/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/560,295

Applicant(s)

ANDRIEU ET AL.

Examiner

David Schindler

Art Unit

2862

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7-9 and 12 is/are rejected.
- 7) ☒ Claim(s) 5, 6, 10 and 11 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>12/12/2005</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Information Disclosure Statement

1. It is noted to applicant that the reference DE3803293 listed on the Information Disclosure Statement of 12/12/2005 has not been considered as this reference does not appear to have been provided.

Claim Objections

2. Claims 1, 3, and 6 are objected to because of the following informalities:

As to Claim 1,

The phrase "an open magnetic circuit (3) delimiting at least one gap" on lines 4-5 is awkward.

The phrase "means (4) for creating a magnetic flux, mounted, displaceable by the moving object (2), delimiting at least one gap" on lines 5-7 is awkward.

The phrase "the measuring cell (11) is mounted near an extreme point of displacement so as to measure the magnetic flux delivered by the creating means (4) minus the magnetic leakage flux" on the last 3 lines is unclear. It is not clear how the measuring cell measures the magnetic flux delivered by the creating means minus the leakage flux.

As to Claim 3,

The phrase the means for creating a magnetic flux (4) are mounted, displaceable in translation" on lines 2-3 is awkward.

As to Claim 6,

The term "diagnose" on the second to last line is awkward.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to Claim 8,

The phrase "the means for creating a magnetic flux includes a series of at least four magnets, the magnetization directions of which are shifted by 90°, two-by-two" on lines 3-5 is not clearly understood.

5. **NOTE:** Due to the informal nature of Claim 8, and art rejection is not being applied at this time.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1, 2, 3, 9, and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Juds et al. (herein referred to as "Juds") (4,841,246).

As to Claim 1,

Juds discloses an open magnetic circuit delimiting at least one gap and including means for creating a magnetic flux, mounted, displaceable by the moving object, delimiting at least one gap (Figures 1 and 4), at least one first measuring cell (71) fixedly mounted in the magnetic circuit and capable of measuring the value of magnetic flux relatively to the axis of displacement (Figure 4), means for processing the output signal delivered by the measuring cell in order to determine the linear location of the moving object along the axis of displacement ((Column 4, Lines 65-68) and (Column 5, Lines 1-2)), the magnetic circuit also includes at least one pole piece (51) associated with means for creating a magnetic flux orientated at least perpendicularly to the surface of the pole piece, from the pole piece emerges a magnetic leakage flux, the strength of which varies at the surface of the pole piece along the axis of displacement (Figure 4), the measuring cell is mounted near an extreme point of displacement so as to measure the magnetic flux delivered by the creating means minus the leakage flux ((Figures 1, 4, and 5) and (Column 4, Lines 35-68) and (Column 5, Lines 1-44)).

As to Claim 2,

Juds discloses a second measuring cell (73) fixedly mounted in the magnetic circuit near the other extreme point of displacement so as to measure the magnetic flux delivered by the creating means minus the magnetic leakage flux (Figure 4).

As to Claim 3,

Juds discloses the means for creating a magnetic flux are mounted, displaceable in translation (Figures 1 and 4).

As to Claim 9,

Juds discloses the open magnetic circuit includes a second pole piece (56) positioned facing the first pole piece, delimiting a gap therebetween (Figure 4).

As to Claim 12,

Juds discloses either one of the pole pieces has a suitable planar profiled for improving the linearity of the output signal delivered by the measuring cells (Figure 4).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Art Unit: 2862

10. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Juds et al. (herein referred to as "Juds") (4,841,246) in view of Porcher et al. (herein referred to as "Porcher") (EP1158275A1).

Juds discloses as explained above.

Juds discloses the processing means for determining the location of a moving object includes a circuit for outputting a difference between the output signals delivered by the first and the second measuring cells ((Figures 1, 4, and 5) and (Column 4, Lines 35-68) and (Column 5, Lines 1-44)).

Juds does not disclose that the processing means for determining the location of a moving object calculates the difference between the output signals delivered by the first and the second measuring cells.

Porcher discloses means for calculating the difference between the output signals delivered by the first and the second measuring cells (Columns 7-8, Claim 1).

It would have been obvious to a person of ordinary skill in the art to modify Juds to include the processing means for determining the location of a moving object calculates the difference between the output signals delivered by the first and the second measuring cells given the above disclosure and teaching of Porcher in order to more accurately determine the difference of the output signals of the first and the second measuring cells.

Art Unit: 2862

11. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Juds et al. (herein referred to as "Juds") (4,841,246) in view of Frederick et al. (herein referred to as "Frederick") (2002/0190709).

Juds discloses as explained above.

Juds discloses a radially magnetized component, the axis of which is parallel to the axis of translational displacement (Figures 1 and 4).

Juds does not disclose a radially magnetized annular component.

Frederick discloses a radially magnetized annular component (Figure 2).

It would have been obvious to a person of ordinary skill in the art to modify Juds to include a radially magnetized annular component as taught by Frederick in order to generate a magnetic field.

Allowable Subject Matter

12. Claims 5, 6, 10, and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. The following is an examiner's statement of reasons for allowance:

As to Claim 5,

The primary reason for the allowance of claim 5 is the inclusion of the processing means for determining the location of the moving object calculates the difference between the output signals delivered by the first and the second measuring cells,

divided by the sum of the output signals delivered by the first and the second measuring cells. It is these features found in the claim, as they are claimed in the combination that has not been found, taught or suggested by the prior art of record, which makes this claim allowable over the prior art.

As to Claim 6,

The primary reason for the allowance of claim 6 is the inclusion of the processing means include means for analyzing each output signal in an independent or combined manner in order to establish a diagnose on the operating state of each measuring cell. It is these features found in the claim, as they are claimed in the combination that has not been found, taught or suggested by the prior art of record, which makes this claim allowable over the prior art.

As to Claim 10,

The primary reason for the allowance of claim 19 is the inclusion of the second pole piece is provided with means for creating the magnetic flux. It is these features found in the claim, as they are claimed in the combination that has not been found, taught or suggested by the prior art of record, which makes this claim allowable over the prior art.

As to Claim 11,

The primary reason for the allowance of claim 11 is the inclusion of the second pole piece is formed with a tubular component equipped with a radially magnetized annular component. It is these features found in the claim, as they are claimed in the

Art Unit: 2862

combination that has not been found, taught or suggested by the prior art of record, which makes this claim allowable over the prior art.

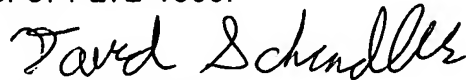
Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Schindler whose telephone number is (571) 272-2112. The examiner can normally be reached on M-F (8:00 - 5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on (571) 272-2180. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



David Schindler
Examiner
Art Unit 2862

DS



EDWARD LEFKOWITZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800